NOTES

WEED TRANSPORT IN ST. AUGUSTINE GRASS SOD IN TEXAS. — St. Augustine grass *(Stenotaphrum secundatum)* is commonly recommended for lawns because its dense growth is supposed to choke out weeds. There is only limited truth in the claim. The grass is established by plugs or sods rather than by seeding. A spectacular illustration of the transport of weed seeds with the sod was provided by the landscaping of the new Science Information Center at Southern Methodist University in Dallas, Texas. Built on a moderate slope on what was originally rolling prairie of calcareous, black clay, it was supplied with a small, enclosed courtyard on the west side. Because of the slope of the land, it was necessary to remove earth to a depth of over six feet at the north and almost three at the south. A small live oak *(Quercus virginiana)* near the southwest corner was preserved by being boxed in on a sort of island, but even here the top soil was removed. The main part of the court was left completely bare, but almost within days a few sprouts of Johnson grass *(Sorghum halepense)* appeared. Whether these represented deep penetration of rhizomes of plants growing in the area before excavation, or whether bits of rhizome or seeds were brought in by scraping machinery or other means afterward, is not known. The newly exposed ground was otherwise bare until planted. The building was dedicated the afternoon of 3 November 1961, and in characteristic Texas fashion, the landscape plantings were all put in on the morning of the same day. For the courtyard, these comprised chiefly 10-foot yaupon *(Ilex vomitoria)* against the retaining wall at the north, and a red oak (perhaps *Quercus Shumardii)* and a live oak *(Q. virginiana)* of similar size near the middle. Most of the area was carpeted with small squares of St. Augustine grass sod. The ensuing winter was exceptional for the number of severe freezing spells, lasting several days each, with temperatures down to 17° F. several times, and once as low as 8°. This is not ideal weather for St. Augustine grass, and much of it died. In the spring the courtyard was a weed patch gratifying to botanical eyes. In April and May, five weedy grasses and nine miscellaneous weeds were found in bloom:

Poa annua
Hordeum pusillum
Alopecurus carolinianus
Agrostis hyemalis
Cynodon dactylon

Sisyrinchium minus
Cerastium brachypodum
Sibara virginica
Ranunculus muricatus
Euphorbia spathulata
Limnosciadium pinnatum
Coreopsis tinctoria
Senecio imparipinnatus
Krigia gracilis

In June *Paspalum dilatatum* (Dallis grass) flowered. *Smilax Bonanox* (cat brier) was present next to the red oak, but may have been

brought with it rather than in the sods. It is characteristic of the Texas flora that of the 17 weedy species present (I consider St. Augustine grass another weed; certainly in my own yard, intended for flowers, it is a pest), all but four are native to Texas. The exceptions are *Poa annua* (spear grass, Eurasian), *Cynodon dactylon* (Bermuda grass, African or Asian), *Paspalum dilatatum* (Dallis grass, South American), and *Ranunculus muricatus* (buttercup, European). The last-named was new to Dallas County, the nearest previously known occurrence being in Gregg County, 125 miles to the east. It is fairly common in the southeastern third of the state and in Louisiana. The precise source of the sod could not be determined, but according to an employe of the landscape company which handled the work, it probably came from Houston. That city is about 270 airline miles south and slightly east of Dallas. All the species mentioned are known to occur there. It may well have been the source of the Dallas occurrence of *Melochia pyramidata,* mentioned in my *Spring Flora of the Dallas—Fort Worth Area* (1958, p. 267). This also is a native species, perhaps as far north as Comal County, where it was collected by Charles Wright in 1850. Similarly the native South Texas weed *Calyptocarpus vialis,* occurring naturally as far north as Bell and San Saba counties, has turned up more than 100 miles farther north as a weed in St. Augustine grass lawn in Highland Park, Dallas: in front of Christian Science Church, *Shinners 13,358,* 14 May 1952 (SMU). "A few small patches." Still another example of such weed transport is provided by a specimen of *Sisyrinchium minus* from the campus of Stephen F. Austin State College in Nacogdoches *(R. L. Oliver 317,* 3 May 1961; SMU), which is noted as "apparently introduced in the San Augustine grass (from Brazos River bottom, Houston area) which was set out in fall of 1960." — *Lloyd H. Shinners.*

EICHHORNIA AZUREA (PONTEDERIACEAE) IN THE TEXAS COASTAL BEND: NEW TO THE UNITED STATES. — The common water hyacinth, *Eichhornia crassipes* (Martius) Solms, with short, greatly inflated petioles, was collected in Texas as early as 1903 by Reverchon (east of La Porte, Harris County), and has been found as far north as Dallas. The following is apparently the first United States record of the related *E. azurea* (Swartz) Kunth, with elongate petioles thicker toward base but not abruptly inflated. TEXAS. San Patricio Co.: growing around shores of Lake Corpus Christi, *Fred B. Jones 1160,* 6 July 1955 (SMU). The species is reported by Alexander (N. Amer. Flora 19: 56—57, 1937) from Mexico, Central America, the West Indies, and South America. It is not included in the recent (undated; 1961?) *Flowering Plants and Ferns of the Texas Coastal Bend Counties* by Fred B. Jones, Chester M. Rowell, Jr., and Marshall C. Johnston, which lists *E. crassipes* only, as occurring in "ditches, lakes, etc." — *Lloyd H. Shinners.*